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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/052,038	01/17/2002	Dong Tian	A148 1599.1	1256
7590	08/04/2004			
Douglas E Winters Legal Group - Bldg 701 Armstrong World Industries, Inc 2500 Columbia Ave. P O Box 3001 Lancaster, PA 17604-3001			EXAMINER REDDICK, MARIE L	
			ART UNIT 1713	PAPER NUMBER
DATE MAILED: 08/04/2004				

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 10/052,038	Applicant(s) TIAN, DONG	
	Examiner Judy M. Reddick	Art Unit 1713	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 24 May 2004.
 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-8 and 24-35 is/are pending in the application.
 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
 5) ☐ Claim(s) _____ is/are allowed.
 6) ☒ Claim(s) 1-8 and 24-35 is/are rejected.
 7) ☒ Claim(s) 1, 25 & 29 is/are objected to.
 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 a) ☐ All b) ☐ Some * c) ☐ None of:
 1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
 * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date <u>05/24/04</u> | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Information Disclosure Statement

1. The information disclosure statement filed 05/24/04 has been considered and scanned into the application file.

Specification

2. The amendment filed 05/24/04 is objected to under 35 U.S.C. 132 because it introduces new matter into the disclosure. 35 U.S.C. 132 states that no amendment shall introduce new matter into the disclosure of the invention. The added material which is not supported by the original disclosure is as follows: "UCAR Waterborne Vinyl AW-845 (Union Carbide), in which hydroxyl groups are distributed along the backbone and one type of the pendant groups contains a high concentration of carboxylic acid groups. In addition to hydrogen and chlorine atoms, the moieties pendant from the backbone of the polyvinyl chloride polymer are alkyl esters, alkoxy esters and polycarboxylic acid-containing esters" per the paragraph bridging pages 4-5. Applicant is required to cancel the new matter in the reply to this Office Action.
3. The disclosure is objected to because of the following informalities: The disclosed UCAR Waterborne Vinyl AQ-845 (Union Carbide) per page 5 @ lines 3-4 is inconsistent with the disclosed UCAR Waterborne Vinyl AW-875 per Run 2, line 26.

Appropriate correction is required.

Claim Objections

4. Claims 1, 25 and 29 are objected to because of the following informalities: In Claim 1 @ line 6 and claim 25 @ line 6, "the" should be inserted after "from" so as to engender claim language clarity. In claim 29 @ line 1, "a" should be inserted after "is" so as to engender claim language clarity. Appropriate correction is required.

Claim Rejections - 35 USC § 112

5. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

6. Claims 1-8 and 24-35 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention. As far as the Examiner can tell, no support can be found for the limitations "the moieties pendant from polyvinyl backbone of the polyvinyl chloride resin consist of ester pendant groups selected from the group consisting of an alkyl ester, alkoxy ester, carboxylic acid-containing ester and combinations thereof" per claim 1, "the moieties pendant from polyvinyl backbone of the polyvinyl chloride resin consist of ester pendant groups selected from the group consisting of acetate, hydroxyl-containing esters, carboxylic acid-containing esters, and combinations thereof" per claim 25, "wherein the polyvinyl chloride resin is selected from the group consisting of chloride and hydroxyl-containing vinyl polymers, chloride and carboxylic acid-containing vinyl polymers, and combinations thereof" per claim 28 and "wherein the polyvinyl chloride resin consists of hydroxyl-containing vinyl monomers, carboxylic acid-containing vinyl monomers and combinations thereof" per claim 33 and this, as such, without any guidelines from applicant as to where support might be found, engenders a New Matter situation.

Claim Rejections - 35 USC § 112

7. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

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8. Claims 33-35 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

The recited "wherein the polyvinyl chloride resin consists of monomers selected from the group consisting of vinyl chlorine monomer, vinyl acetate monomer, hydroxyl-containing vinyl monomers, carboxylic acid-containing vinyl monomers and combinations thereof" per claim 33 constitutes indefinite subject matter as per it not being known by any rules of Chemistry as to how a polymer can consist of "monomers" vs. "monomer units". It is suggested that "vinyl chlorine" be replaced with the more commonly used "vinyl chloride".

Claim Rejections - 35 USC § 103

9. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

10. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

11. Claims 28-31, 33 & 34 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ruske(U.S. 3,909,471).

Ruske teaches colored surface coatings and plastics which contain an anthraquinoneoxadiazole pigment wherein the plastics, in the form of an aqueous organic emulsion, to be colored include polyvinyl chloride, flexible polyvinyl chloride copolymers of vinyl

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chloride such as vinyl chloride/vinyl acetate copolymers and other copolymers of vinyl chloride, amino resins such as those based on urea or melamine and formaldehyde, polyaddition resins such as epoxy or polyurethane resins and alkyd resins (Abstract, col. 1, lines 3-35, the Runs, especially Runs 5, 6 & 8, the claims, especially claims 1, 2 & 6).

The disclosure of Ruske differs basically from the claimed invention as per the non-specific disclosure of an embodiment directed to a composition comprising a) polyurethane resin particles, b) epoxy resin particles, c) polyvinyl chloride resin particles, and melamine resin(31), as claimed. However, based on their identified scope equivalency, one having ordinary skill in the art would have found it obvious to extrapolate the composition comprising a combination of a) + b) + c) and melamine resin from Ruske as per such having been within the purview of the general disclosure of Ruske and with a reasonable expectation of success, absent a showing of unexpected results, clearly commensurate in scope with the claims.

The specification need not contain working examples if the invention is disclosed in such a manner that one skilled in the art would be able to practice it without an undue amount of experimentation (In re Borkowski, 162 USPQ 642).

It is well established that a reference is available for all it teaches including nonpreferred embodiments as for instance is discussed in M.P.E.P. § 2123 which is quoted in its entirety below (underlinings added).

2123 Rejection Over Prior Art's Broad Disclosure Instead of Preferred Embodiments

PATENTS ARE RELEVANT AS PRIOR ART FOR ALL THEY CONTAIN

"The use of patents as references is not limited to what the patentees describe as their own inventions or to the problems with which they are concerned. They are part of the literature of the art, relevant for all they contain." In re Heck, 699 F.2d 1331, 1332-33, 216 USPQ 1038, 1039 (Fed. Cir. 1983) (quoting In re Lemelson, 397 F.2d 1006, 1009, 158 USPQ 275, 277 (CCPA 1968)). A reference may be relied upon for all that it would have reasonably suggested to one having ordinary skill in the art, including nonpreferred embodiments. Merck & Co. v. Biocraft Laboratories, 874 F.2d 804, 10 USPQ2d 1843 (Fed. Cir.), cert. denied, 493 U.S. 975 (1989). See also Celeritas Technologies Ltd. v. Rockwell International Corp., 150 F.3d 1354, 1361, 47 USPQ2d 1516, 1522-23 (Fed. Cir. 1998) (The court held that the prior art anticipated the claims even though it taught away from the claimed invention. "The fact that a modem with a single carrier data signal is shown to be less than optimal does not vitiate the fact that it is disclosed.").

NONPREFERRED EMBODIMENTS CONSTITUTE PRIOR ART

Disclosed examples and preferred embodiments do not constitute a teaching away from a broader disclosure or nonpreferred embodiments. In re Susi, 440 F.2d 442, 169 USPQ 423 (CCPA 1971). "A known or obvious composition does not become patentable simply because it has been described as somewhat inferior to some other product for the same use." In re Gurley, 27 F.3d 551, 554, 31 USPQ2d 1130, 1132 (Fed. Cir. 1994) (The invention was directed to an epoxy impregnated fiber-reinforced printed circuit material. The applied prior art reference taught a printed circuit material similar to that of the claims but impregnated with polyester-imide resin instead of epoxy. The reference, however, disclosed that epoxy was known for this use, but that epoxy impregnated circuit boards have "relatively acceptable dimensional stability" and "some degree of flexibility," but are inferior to circuit boards impregnated with polyester-imide resins. The court upheld the rejection concluding that applicant's argument that the reference teaches away from using epoxy was insufficient to overcome the rejection since "Gurley asserted no discovery beyond what was known in the art." 27 F.3d at 554, 31 USPQ2d at 1132.).

As to any remaining dependent claim limitations, if not taught or suggested such would have been obvious to the skilled artisan and with a reasonable expectation of success, i.e., any additional or particular claim parameters which may not be specifically set out in the references are considered to be inherent in the reference products or not to involve anything unobvious absent a showing to the contrary.

Claim Rejections - 35 USC § 103

12. Claims 1-8 & 24-35 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kotera et al(U. S. 4,340,519).

Kotera et al teach aqueous dispersions, useful as an aqueous binder for coating and surface treating agent, comprising (A) a crystalline polyester, (B), a non-crystalline polyester, (C) water-soluble organic compound & (D) water(Abstract, col. 2, lines 9-54 & col. 7, lines 41-48). Kotera et al further teach that the aqueous dispersion comprising (A), (B), (C) and (D) can be further incorporated with one or more crosslinking agents, with or without curing agents or crosslinking promoting agents, which include amino resins such as melamine resins, epoxy compounds, and isocyanate compounds(col. 6, lines 33-61 & col. 7, lines 30-40). Kotera et al further teach that the polyester resin-containing aqueous dispersion, useful as an aqueous binder for coating and incorporated with an amino resin

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such as a melamine resin can further contain curing agents which include acids such as toluenesulfonic acid, hydrochloric acid, etc., modifying agents which include an epoxy resin dispersion and a urethane resin dispersion(the paragraph bridging cols. 8 & 9). Kotera et al also teach that, as a surface treating agent, the polyester resin-containing aqueous dispersion can further incorporate a water-soluble resin and other conventional additives such as curing agents and promoters, aqueous resins such as polyvinyl chloride emulsion, self, emusifiable polyurethane, or the like(col. 9, lines 14-47).

The disclosure of Kotera et al differs basically from the claimed invention as per the non-express disclosure of an embodiment directed to the specifically defined composition, as claimed. However, one having ordinary skill in the art would have found it obvious to extrapolate, from the disclosure of Kotera et al, the precisely defined composition, as claimed, as per such having been within the general purview of the disclosure of Kotera et al and with a reasonable expectation of success.

"It is prima facie obvious to combine two compositions each of which is taught by the prior art to be useful for the same purpose, in order to form a third composition to be used for the very same purpose.... [T]he idea of combining them flows logically from their having been individually taught in the prior art." In re Kerkhoven, 626 F.2d 846, 850, 205 USPQ 1069, 1072 (CCPA 1980). Furthermore, the recognition of a result flowing naturally from following the suggestion of the prior art cannot be the basis for patentability when the differences would otherwise be obvious, i.e., the so called improvement will flow from the suggestion in the prior art to make the modification(Ex parte Obiaya, 227 USPQ 58, 60 (Bd. Petchke et al. App. & Int. 1985).

While the polyurethane resin, epoxy resin and/or polyvinyl chloride resin is generic to the claimed polyurethane resin, epoxy resin and/or polyvinyl chloride resin, such is a necessary implication that any polyurethane resin, epoxy resin and polyvinyl chloride resin, including the claimed polyurethane resin, epoxy resin and polyvinyl chloride resin, would have been operable within the scope of patentees invention and with a reasonable

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expectation of success. Moreover, the use of any commercially available polyurethane resin, epoxy resin and/or polyvinyl chloride resin in the system of Kotera et al would have been obvious to the skilled artisan and with a reasonable expectation of success.

As to the remaining dependent claim limitations, if not taught or suggested, such would have been obvious to the skilled artisan and with a reasonable expectation of success, i.e., any additional or particular claim parameters which may not be specifically set out in the references are considered to be inherent in the reference products or not to involve anything unobvious absent a showing to the contrary.

Claim Rejections - 35 USC § 102

13. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

14. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

15. Claims 28, 29 & 33 rejected under 35 U.S.C. 102(b) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over Bontinck et al(U.S. 5,541,251).

Bontinck et al teach aqueous self-crosslinkable resin compositions defined basically as containing an aqueous dispersion of at least one polyurethane polymer having anionic salt groups and at least one vinyl polymer having chain-pendant acetoacetoxyalkyl ester groups (Abstract, col. 1, lines 4-7, col. 2, lines 57-67, col. 3, lines 1-9 and 63-67, col. 4, lines 1-4, col. 6, lines 10-20). Bontinck et

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al further teach that the aqueous resin compositions, useful for the preparation of protective coatings, varnishes, etc, can include other additives, in order to impart or improve desirable properties or to suppress undesirable properties, which include other polymer dispersions such as epoxy resin dispersions and polyvinyl chloride dispersions(col. 10, lines 20-36). Bontinck et al therefore anticipate the instantly claimed invention with the understanding that the aqueous polyurethane composition of Bontinck et al overlaps in scope with the claimed polyurethane resin-containing waterborne coating composition. Even if it turns out that the claims are not anticipated by the disclosure of Bontinck et al, it would have been obvious to the skilled artisan to extrapolate, from the disclosure of Bontinck et al, the precisely defined waterborne coating composition, as claimed, as per such having been within the purview of the general disclosure of Bontinck et al and with a reasonable expectation of success.

Response to Arguments

16. Applicant's arguments filed 05/24/04 have been fully considered but they are not persuasive.

Relative to New Matter added to the Specification---The Product Bulletin provided by applicant is not descriptive of UCAR Waterborne Vinyl AW-845(Union Carbide) resin dispersion as described at page 5, lines 3-6.

Relative to Ruske---The crux of Counsel's arguments appear to hinge on there being no teaching of combining (melamine resin, epoxy resin & polyurethane resin) with the polyvinyl chloride resin. To this end, Counsel is cordially directed to at least claim 1 which recites the coating or plastic material is a polymer selected from the group consisting of at least polyvinyl chloride, amino resins based on urea or melamine and formaldehyde, epoxy resins and polyurethane resins which is deemed sufficient to dispel any confusion as to the interpretation of col. 1, lines 19-35. Counsel is herein reminded that a reference is evaluated, as a whole for what it fairly teaches and is not limited to just

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bits and pieces. It is urged and maintained that the instantly claimed invention is obvious within the meaning of 35 USC 103 over Ruske as per reasons clearly stated in the Grounds of Rejection supra.

Relative to the Dong Tian 1.132 Declaration--- The Declaration has been considered but deemed one of opinion and not supported by factual evidence and is of little or no probative value. Furthermore, Ruske teaches that the plastics including polyvinyl chloride, can be used in the form of an aqueous organic emulsion(dispersion), col. 1, lines 19-21 and 28-35, which in direct opposition to the Tian Declaration.

Relative to Kotera et al---The crux of Counsel's arguments appears to hinge on there being no suggestion to combine epoxy resin, urethane resin and polyvinyl chloride resin and to this end, the paragraph bridging cols. 8 and 9 and col. 9, lines 14-42 is sufficient to establish a prima facie case of obviousness for combining an epoxy resin, a urethane resin and a polyvinyl chloride resin as clearly established in the Grounds of rejection supra per paragraph no. 12.

Relative to Bontinck et al---The crux of Counsel's arguments appear to hinge on the polyvinyl chloride resin of Bontinck et al does not meet the claimed polyvinyl chloride resin. Counsel further argues that the vinyl polymer of Bontinck has a chain-pendant acetoacetoxyalkyl ester group. To this end, Counsel is cordially directed to col. 10, lines 34 and 35 wherein the polyvinyl chloride component taught meets the claimed polyvinyl chloride component. The claims, in their present form, simply don't preclude the vinyl polymer having chain-pendant acetoacetoxyalkyl ester groups, as apparently believed by Counsel.

Conclusion

17. The prior art to Tokita et al(U.S. 6,448,321) is cited as of interest in teaching aqueous dispersions of thermoplastic resins such as polyvinyl chloride useful in the formation of coatings and is considered merely cumulative to the prior art supra.

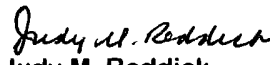
18. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, THIS ACTION IS MADE FINAL. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).


A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

19. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Judy M. Reddick whose telephone number is (571)272-1110. The examiner can normally be reached on Monday-Friday, 6:30 a.m.-3:00 p.m..

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David Wu can be reached on (571)272-1114. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).


Judy M. Reddick
Primary Examiner
Art Unit 1713

JMR 
07/29/04